

Part II Astrophysics Essay 2021

Where do super-solar abundance stars come from?

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Stars form with the abundance of the local inter-stellar medium (ISM) gas from which they form. The ISM near the Sun has approximately Solar abundance, and varies very slowly with Galactocentric radius. Nevertheless, there are many nearby stars with element abundances up to 3 times Solar abundance. Where and when did they form? How did they get where they are today?

Suggested references

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Bensby et al. 2017, Astronomy & Astrophysics, 605, 89

Bensby et al. 2017, IAUS, 334, 86

Bedell M., et al., 2018, Astrophysical Journal, 865, 68

Fuhrman et al. 2017, Monthly Notices of the Royal Astronomical Society, 464, 2610

Sanders & Binney 2015, Monthly Notices of the Royal Astronomical Society, 449, 3479